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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,796	03/16/2007	Shutaro Nakanishi	0002936USU/3105	7232
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EXAMINER				
CHRISS, JENNIFER A				
ART UNIT		PAPER NUMBER		
1794				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,796

Applicant(s)

NAKANISHI, SHUTARO

Examiner

JENNIFER A. CHRISS

Art Unit

1794

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed September 22, 2009, have been entered and have been carefully considered. Claim 1 is amended, claim 4 is added and claims 1 – 2 and 4 are pending. In view of Applicant's amendments, the Examiner has revised the previously applied rejection below. The invention as currently claimed is not found to be patentable for reasons herein below.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:
 - a. Claim 1 has the new limitation of "the adhesive agent is attached directly to said front portions of the filaments". The Specification does not have support for "attached *directly*".

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1—2 and 4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claim 2 is rejected as being dependent on claim 1. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6. Claim 1 has the new limitation of "the adhesive agent is attached directly to said front portions of the filaments". The Specification does not have support for "attached *directly*" which Applicant appears to imply means that no intervening non-adhesive material can be located between the particles and the front portions of the filaments. The Specification does not have literal or implicit support for this new limitation. If Applicant believes this is in error, the Applicant should point to the exact place in the originally filed application which supports this concept.

Claim Rejections - 35 USC § 103

7. Claims 1 – 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagerman (US 3,278,967) in view of Hiragami et al. (US 4,501,783) and further in view of Kwak et al. (US 2002/0111406) as evidenced by the article entitled "A Quick and Easy Formula for Mesh-Micron Particle Conversions" by Don Kirk.

Hagerman is directed to a non-slip fibrous doormat (Title and column 3, lines 4 - 30).

Hagerman teach a fibrous door mat as shown in the figures comprising an open,

three-dimensional porous structure of curled hair filaments (column 2, lines 35 – 55) where granular materials employed in a non-slip coating 12 is provided on the filaments by means of a sprayed mixture of plasticized polyvinyl chloride, hard granular particles, resin and water (a diluent) and an adhesive 10 (column 2, lines 34 – 57, column 3, lines 4 - 30 and Example). As the non-slip coating 12 coats the surface of the hair filaments, the Examiner considers the filaments to be “resin filaments” as required by Applicant and are a part of the filament surface structure. In regards to claim 4, Hagerman teach that the mat is reversible (column 5, lines 10 – 20), therefore, either surface can be considered as Applicant’s “front surface” and thus the coating of both “front surfaces” is encompassed by Applicant’s claim.

Hagerman teach the claimed invention but fail to teach that the filaments are made of resin and the particulate material is made of resin. Additionally, Hagerman fail to teach the use of particles ranges from 15 to 80 mesh size.

Hiragami et al. is directed to a non-slip floor material (Title). Hiragami et al. teach that the floor material comprises a polyvinyl matrix layer having dispersed therein synthetic resin particles in an amount of at least 3 weight % of the entire matrix layer where a quantity of resin particles are exposed from the surface of the matrix layer (column 1, lines 55 - 69). Hiragami et al. teach that the polyvinyl chloride matrix layer is made with polyvinyl chloride with known additives such as a plasticizer, filler and thermal stabilizer (column 2, lines 5 - 10). Hiragami et al. teach that the particles, including the ones exposed at the surface, can comprise synthetic resin particles which

are not limited to fresh materials but also can be waste plastic particles in pulverized form (column 2, lines 15 - 30). The particles are preferably in the range of 100 microns to 1 mm in particle size (column 2, lines 45 - 60). According to the article by Don Kirk, particle size and mesh can be easily converted using the formula published in the paper where microns = 15,000/mesh according to the Kirk Mesh Equation or according to the trendline where microns = 14,992/mesh. As shown in the chart, a particle size of 100 microns - 1000 microns as taught by Hiragami et al. would be equated to approximately 150 - 15 mesh which completely encompasses Applicant's claimed range. Hiragami et al. note that, if the particles are too fine, the material will not exhibit non-slip properties and if they are too large, they will not be uniformly distributed resulting in a faulty product (column 2, lines 45 - 60). As shown in Figure 1, the polyvinyl chloride matrix is attached to a backing such as a sheet of foamed or non-foamed plastic, woven or nonwoven fabric (column 2, lines 65 - 69).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use synthetic resin particles and resin filaments for the mat body as suggested by Hiragami et al. in the fibrous doormat of Hagerman motivated by the desire to create a door mat using updated and readily available recycled materials such as waste particles.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use particles ranging from 15 - 150 mesh motivated by the desire to create a door mat having the desired level of slip-resistance.

Hagerman in view of Hiragami et al. teach the claimed invention above but fail to disclose that the polyvinyl chloride matrix specifically has a polyester-based plasticizer.

Kwak et al. is directed to an aliphatic polyester used for plasticizing polyvinyl chloride (Abstract). Kwak et al. indicate in the background that many plasticizers are used to create flexible PVC such as di[2-ethylhexyl]phthalate or DOP which is a low molecular weight plasticizer (page 1, [0005]). Kwak et al. indicate that the low molecular weight plasticizers are undesirable because they tend to volatilize into the air or transfer to the outside through the contacts with liquid or solid substance creating an environmentally unfriendly blend (page 1, [0006] - [0009]). In order to alleviate this issue, Kwak et al. developed a aliphatic polyester compound for plasticizing polyvinyl chloride which avoids the volatilizing issue while having superior compatibility with polyvinyl chloride, superior efficiency to plasticize and providing the polyvinyl chloride sufficient flexibility (page 1, [0012]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an aliphatic polyester plasticizer as suggested by Kwak et al. motivated by the desire to create an environmentally-friendly floor mat.

Hagerman in view of Hiragami et al. and Kwak et al. disclose the claimed invention except for that the crushed particulate matter distributed in a range of 50 to 150 g/m². The amount of crushed particulate matter is a result effective variable. Hiragami et al. note that the amount of particulate matter should be at least 3 weight % based on the entire weight of the matrix layer and there is no particular upper limit but

the use of more than 30 weight % produces little or no enhanced effect (column 2, lines 45 – 60). Hiragami et al. note the desire to provide increased friction of the floor material preventing continuous slippage and exhibiting outstanding non-slip properties but while also having a substantially smooth surface which retains a beautiful appearance at all times (column 3, lines 20 - 45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to create the floor mat with a particulate material density of 50 to 150 gsm since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the amount of surface particulate matter in order to create a floor mat having the desired level of non-slip properties balanced with a substantially smooth and beautiful appearance.

Response to Arguments

8. Applicant's arguments filed September 22, 2009 have been fully considered but they are not persuasive.
9. Applicant argues that Hagerman teaches that the particles are not directly attached to the hair filaments but rather two coatings are between the particles and filaments, namely the adhesive and non-slip coatings. Although Applicant's claim recites "directly attached", the Examiner submits that Hagerman still teaches Applicant's invention as the non-slip coating can be considered the resin outer surface of the

filaments leaving only the adhesive between the particles and filaments. Furthermore, the Examiner submits that Applicant does not have support for the limitation "directly attached". Please see the rejections above for details.

10. Applicant argues that Hagerman does not teach the limitations of new claim 4 which recites "said adhesive agent is spray-formed on said front surface of the spread mat only". Applicant indicates that Hagerman teaches in the example that the adhesive coats all of the filaments in the doormat completely. As the Examiner notes above, the mat is discussed as reversible so either side thus both sides can be considered "a front surface". Furthermore, Applicant's claims do not define a distinct "front surface" and "back surface" and the term "front" is relative to the positioning of the mat so the Examiner submits that the interpretation is reasonable.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. CHRISS whose telephone number is (571)272-7783. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 6 p.m., first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Chriss/
Primary Examiner, Art Unit 1794

/J. A. C./
Primary Examiner, Art Unit 1794